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## **Abstract**

Establishments in metropolitan and nonmetropolitan locations are surprisingly similar in their adoption of new technologies, worker skill requirements, use of government programs and technical assistance, exports, and sources of financing, according to the results of a nationwide survey of 3,909 manufacturing businesses. The most widespread concern of both metro and nonmetro businesses appears to be with quality of labor. Survey respondents report rapidly increasing skill requirements, and many report problems finding qualified workers. Quality of local labor is the most frequently cited problem associated with nonmetro business locations. Access to credit, transportation, and telecommunications infrastructure is a problem of secondary importance for both metro and nonmetro respondents. Rural communities face a considerable challenge in supplying workers with needed skills. The fastest-growing skill requirements—computer, interpersonal/teamwork, and problem-solving skills—are not central to traditional academic instruction.

**Keywords**: Rural manufacturing, sample survey, worker skills, manufacturing location, credit availability, technology adoption

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## **Summary**

Difficulty finding qualified employees is the most common problem reported by rural manufacturing establishments. In 1996, 60 percent of nonmetro manufacturers reported problems finding qualified applicants for production jobs, and more than 70 percent said quality of local labor was a problem affecting their business' ability to compete. Nonmetro manufacturers were more likely to cite labor quality than any of 20 other potential barriers to competitiveness, including tax rates, environmental regulations, access to business services, training, transportation infrastructure, and labor cost. Manufacturers reported inadequate worker skills as the most important barrier to implementing new technologies and management practices.

The availability of qualified workers and its implications for rural manufacturers' ability to compete in national and global markets are among the issues explored in this 1996 survey of nonmetro and metro manufacturers. The survey looks at indicators of nonmetro establishments' success in a changing business environment. In evaluating rural manufacturers' ability to compete, the survey also explores manufacturers' use of business assistance programs, implementation of advanced technology, use of training programs, and sources of capital.

Most nonmetro manufacturers reported rising skill requirements in the mid-1990's, with interpersonal/teamwork, computer, and problem-solving skills growing the fastest. However, both rural and urban manufacturers noted that the skill most lacking among job applicants was a reliable and acceptable work attitude. Thirty-one percent of nonmetro manufacturers reported a major problem finding job applicants with this characteristic, and 25 percent reported it as a minor problem. This was also the leading skill problem for metro employers.

Nonmetro and metro manufacturers also provided similar responses about what role government business assistance, such as tax breaks, direct subsidies, or loan programs, played in their businesses. Seventy percent of manufacturers indicated that at least one type of government assistance played a role in their operations. No one program, however, was noted as playing a significant role for either rural or urban manufacturers. Just 19 percent of rural manufacturers said government tax breaks were very important to their businesses, an attitude echoed by urban businesses. Eight percent of nonmetro establishments reported government worker training and technology assistance programs were very important to operations.

Nonmetro manufacturers, however, do lag behind metro businesses in some important areas. They were less likely to use several types of advanced technologies and were less likely than urban manufacturers to have research and development units on site. Rural manufacturers noted several problems associated with their locations that were not as frequently highlighted by urban establishments. Forty-five percent of rural manufacturers said they had problems with access to training for employees, while just 29 percent of urban establishments reported such a problem. Thirty-seven percent of nonmetro establishments reported having some problems with access to major customers. Rural manufacturers were about twice as likely as urban establishments to report hav-

ing problems with access to interstates and highways. Forty-eight percent of rural manufacturers also believed the company's ability to recruit managers and professionals was affected, at least to some extent, by the establishment's location.

These findings stem from the 1996 Rural Manufacturing Survey, conducted by USDA's Economic Research Service (ERS) in cooperation with Washington State University. Interviews were conducted with 2,844 manufacturing establishments in nonmetro areas of the United States and with 1,065 metropolitan manufacturers. All establishments employed 10 or more people in manufacturing.